

**Abstract of the Disclosure**

**METHOD AND APPARATUS FOR EXHAUST GAS  
RECIRCULATION COOLING USING A VORTEX  
TUBE TO COOL RECIRCULATED EXHAUST GASES**

An engine includes an exhaust conduit, an intake conduit, and a vortex tube disposed between the exhaust conduit and the intake conduit. The vortex tube has an inlet in fluid communication with the exhaust conduit, a cold gas outlet in fluid communication with the intake conduit, and a hot gas outlet.